Purpose and Need

This Environmental Impact Statement evaluates a set of alternatives that will be used to create a twenty-year plan and stakeholder generated vision for the future of SR 104. As part of a national initiative to streamline the environmental process, this project piloted the Washington State "Early NEPA In Planning" process (for a detailed description of the process see Appendix A.)

The need is to provide multi-modal transportation linkage to the Kitsap and Olympic Peninsulas that enables safe, efficient, and economical movement of people and goods.

The purpose is to do so in a manner that respects and provides for the competing needs: preserving scenic and natural beauty, historic and rural character of the area, the current quality of life for both residents and users, and the integrity of the natural environment.

The document does not select a preferred alternative for the route, because insufficient funding did not allow for completion of the selection process. However, this document does include an analysis of the key issues for all the viable alternatives and an analysis of the secondary and cumulative impacts that may result from growth allowed or accelerated by improvement to the state highway.

It is important to recognize that this is a corridor-level study that will focus on major transportation elements, such as mode and alignment. It is anticipated that any improvements recommended as a result of this study will be constructed in incremental segments over a long period of time. Therefore, the study will not focus on specific design details or precise footprints, but will examine the potential environmental impacts of any proposed action in more general terms. Additional environmental review will be conducted as necessary for individual projects when the funding becomes available.

Alternatives

Corridor Overview

State Route 104 is located on the west side of Puget Sound in northern Jefferson and Kitsap Counties. The route begins at US Highway 101 and extends eastward, across the Hood Canal Floating Bridge and Puget Sound to SR 522 in Edmonds. However, this study is only concerned with that section of the route west of Puget Sound. The western terminus is the junction of US 101 and SR 104. The eastern terminus is the Kingston Ferry terminal.

Related Actions

Early in the planning process it was recognized that the Department of Transportation has several pipeline projects funded for construction or design within the next six years on SR 104. Since the goal of this study is to develop a twenty-year plan for the route, it was agreed that, for the purposes of this study, these projects would be considered as already completed.

- Truck Passing Lane Near SR 19 MP 7.75 to 8.85
- Safety Improvements at SR 19 MP 8.85 to 9.10

- Hood Canal Bridge East Half Replacement MP 13.75 to 15.50
- Miscellaneous Bridge Preservation Projects MP 13.75 to 15.50
- SR 104 Paving from MP 15.54 to 20.39
- SR 307 4-Lane Widening from SR 305 to SR 104
- Kingston Circulation Improvments
- Passenger-only Ferry at Kingston

The Alternatives

The twenty-four and one-half mile route is divided into five segments based on terrain, predominant use and traffic volumes, see Figure S-1. Each segment has three to five alternatives that will be studied in this document. The intent is to select the least environmentally damaging alternative in each segment to build a route-long alternative. For all "build" alternatives, the Transportation Demand Management (TDM) measures will be implemented first to delay or alleviate the need for highway construction.

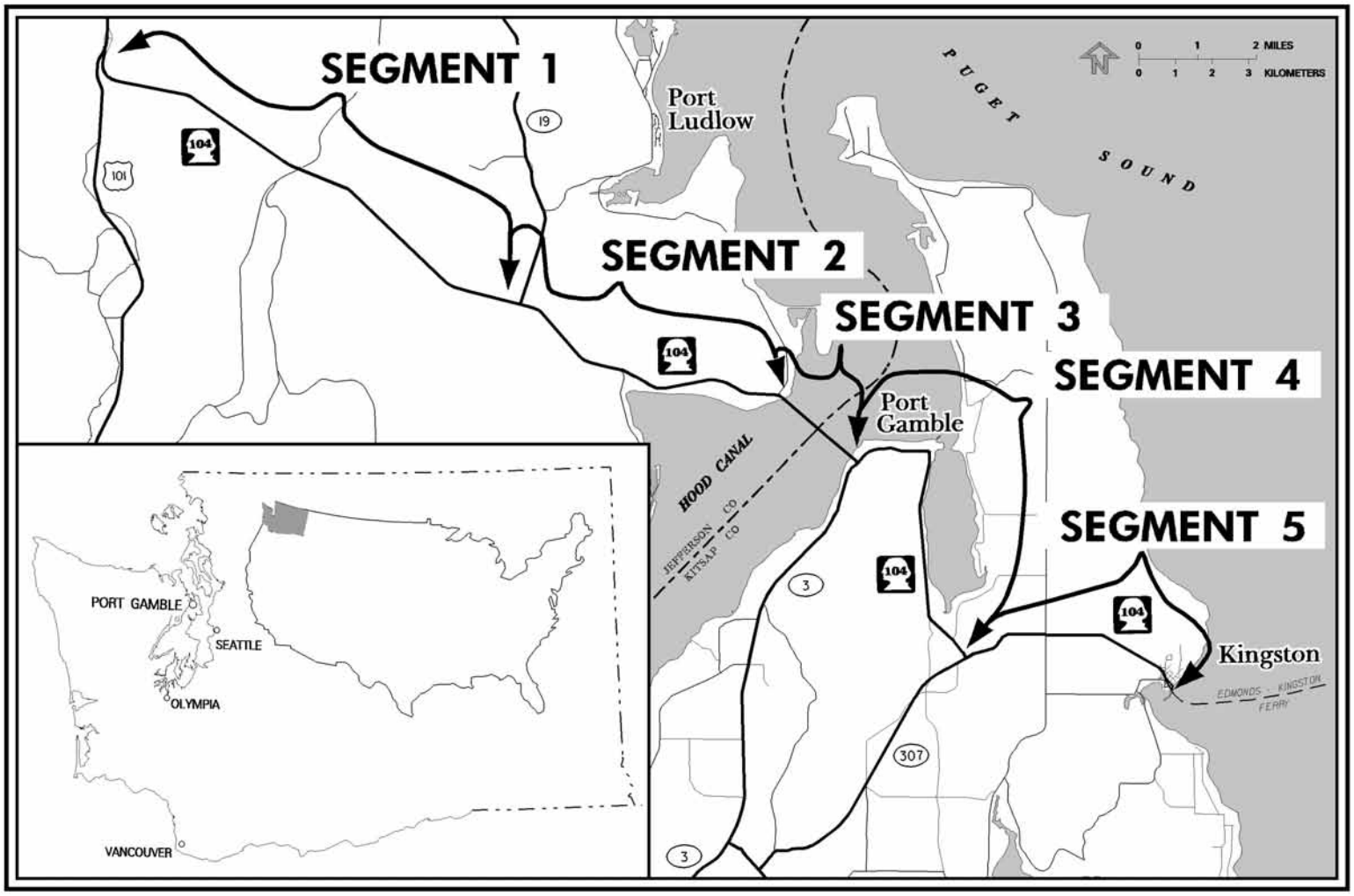
Segment 1 Western Quimper Peninsula
Alternative 1A – No Build
Alternative 1B – TDM
Alternative 1C – Four-lane Widening (P-1)
Alternative 1VA – Continuous Three-lane Widening (P-3)
Option 1VA – Intermittent Three-lane Widening

Segment 2 Eastern Quimper Peninsula
Alternative 2A – No Build
Alternative 2B – TDM
Alternative 2C – Four-lane Widening (P-1)
Alternative 2VA – Continuous Three-lane Widening (P-3)

Segment 3 Hood Canal Bridge
Alternative 3A – No Build
Alternative 3B – TDM
Alternative 3C – Four-lane Bridge Widening (see bridge drawings)

Segment 4 Port Gamble Bay Area
Alternative 4A – No Build
Alternative 4B – TDM
Alternative 4C – Two-lane North Bypass (P-3)
Alternative 4D – Two-lane South Bypass (P-3 with truck climbing lane)
Alternative 4VA – Upgrade Existing Two-lane

Segment 5 Greater Kingston
Alternative 5A – No Build
Alternative 5B – TDM
Alternative 5C – Four-lane Widening (P-6 with raised median)
Alternative 5D – Kingston Grade Separation
Alternative 5E – Short Tunnel



Route Location Map | Figure S-1

Preliminary Draft EIS
SR 104 EIS: US 101 to Kingston

Existing Conditions

Pivotal Issues

To establish a scientific basis for the environmental analysis, fifteen discipline studies were conducted in the fall and winter of 2001. Of the fifteen reports, Threatened and Endangered Species, Wetlands, Water Resources, Fish and Wildlife Habitat, Traffic, and Land Use and Displacements proved to contain pivotal environmental issues that made a clear distinction between the proposed alternatives. Table S-1: Pivotal Issues Summary, beginning on page S-5, summarizes this discussion.

Information about the existing environmental conditions discussed in the other nine reports (Noise, Visual Quality, Air Quality, Hazardous Materials, Geology & Soils, Cultural Resources, Energy, Bike/Pedestrian & Recreation, and Socioeconomic) were not pivotal issues because the environmental consequences were either minor, having low to moderate impacts that were readily mitigatable, or of low to moderate importance and the same for all of the alternatives (they did not provide information that assisted in alternative selection.)

All of the discipline reports are available for review upon request at the WSDOT Olympic Region Transportation Planning Office.

Table S-1 Pivotal Issues Summary

Pivotal Issue	Segment 1	Segment 2	Segment 3	North Bypass Corridor	South Bypass Corridor	Segment 4	Segment 5
Habitat	Screened regenerating clear-cuts and conifer forests. Existing highway is a barrier to wildlife.	Wetlands, regenerating clear cut and rural mod. vegetated Existing highway is a barrier to wildlife.	Marine waters of Hood Canal **Eelgrass beds on the eastern shore**.	Second growth, regenerating clear-cut and rural mostly vegetated	Mixed forest regeneration, regenerating clear-cut, conifer forest	Residential moderately vegetated, regenerating clear-cut	Mixed forest, rural- mostly vegetated and urban-poorly vegetated
Wetlands	16 (1-20 acres)	19 (1 to 100 acres **Shine Creek Wetland)**	4 (1-50 acres)	4 (1-10 acres)	None	16 (1-20 acres)	9 (1-30 acres)
WRIA	17	17	N/A	15	15	15	15
Fresh Water Resources	**Tarboo Creek *** Chimacum Creek Ludlow Creek	**Shine Creek**	None	**Toddhunter Creek**	**Toddhunter Creek**	**Toddhunter Creek Gamble Creek**	**Grovers Creek Carpenter Creek**
Marine Waters	Tarboo Bay Class AA Dabob Bay Class AA	**Squamish Harbor** Thorndyke Bay	**Hood Canal**	None	None	**Port Gamble Bay**	**Appletree Cove**
Flood Plains	Snow Creek	Shine Creek	Hood Canal Coastal	Gamble Creek	Gamble Creekj	Gamble Creek	Appletree Cove
Groundwater	No wellhead protection zones. No aquifers identified.	7 wellhead protection zones No aquifers identified	6 wellhead protection zones	1 wellhead protection zone Port Gamble aquifer	3 wellhead protection zones Port Gamble aquifer	7 wellhead protection zones Port Gamble aquifer	9 wellhead protection zones Pt. Gamble, S. Pt. Gamble, and Kingston aquifer
Threatened Species	Bald eagle, Hood Canal Summer-run Chum	Bald eagle, Marbled murrelet, Puget Sound chinook, Hood Canal summer-run chum, bull trout	Marbled murrelet, Puget Sound chinook, Hood Canal summer-run chum, bull trout, humpback whale, Steller sea lion, leather-back sea turtle	Bald eagle, Puget Sound Chinook, Hood Canal summer-run chum, bull trout	Bald eagle, Puget Sound Chinook, Hood Canal summer-run chum	Bald eagle, Marbled murrelet, Puget Sound Chinook, Hood Canal summer-run chum, bull trout, Humpback whale, Harbor Seal, Steller sea lion	Bald eagle, Marbled murrelet, Puget Sound Chinook, Hood Canal summer-run chum
Candidate Species	Resident Coho	Coho	Coho	Coho	Coho	Coho	Coho
Species of Concern	Osprey, sea run cutthroat, cutthroat, winter steelhead, long-eared myotis, long-legged myotis, western toad	Osprey, great blue heron, resident & sea-run cutthroat, winter steelhead, forage fish, harbor seal, myotis, western toad, Pacific oyster, geoduck, Dungness crab, prawn, sand shrimp	Resident & sea-run cutthroat, winter steelhead, forage fish, harbor seal, myotis, Pacific oyster, geoduck, Dungness crab, prawn, and sand shrimp.	Osprey, great blue heron, resident & sea-run cutthroat, winter steelhead, forage fish, myotis, western toad, Pacific oyster, geoduck, Dungeness crab, prawn and sand shrimp	Osprey, great blue heron, resident & sea-run cutthroat, winter steelhead, forage fish, myotis, western toad, Pacific oyster, geoduck, Dungeness crab, prawn and sand shrimp	Osprey, great blue heron, resident & sea-run cutthroat, winter steelhead, forage fish, myotis, western toad, Pacific oyster, geoduck, Dungeness crab, prawn and sand shrimp	Osprey, great blue heron, resident & sea-run cutthroat, winter steelhead, forage fish, myotis, western toad, Pacific oyster, geoduck, Dungeness crab, prawn, and sand shrimp
Land Use	Forestry, agriculture and low density residential	Forestry, mineral extraction, low to medium density residential	Transportation (bridge approaches)	Forestry	Forestry	Forestry, rural residential and neighborhood commercial	Rural residential, rural protection and neighborhood commercial
Existing Traffic (1999)	7,020 AADT LOS D	12,000 AADT LOS E	16,000 AADT LOS E	N/A (road does not exist)	N/A (road does not exist)	5,220 AADT LOS C	14,300 AADT LOS E
Future Traffic (2025)	20,980 AADT LOS F	28,310 AADT LOS F	33,180 AADT LOS F	N/A (road does not exist)	N/A (road does not exist)	11,550 AADT LOS D	36,700 AADT LOS F
Safety	HAC at SR 19, congestion at Center Road	FAL at MP 8.87 Paradise Bay Road congestion	None	None	None	RISK Location at Old Gamble Rd.	HAC Highland Rd.- W 1st 5 RISK Locations

*Key resources are shown in bold type.

Environmental Consequences

Issues of Concern

Tables S-2 through S6 summarize the potential environmental impacts to the key resources identified in Chapter 3.

General Impacts

Construction Impacts -- Noise, dust, accidental spills, increased human presence, loss of habitat and habitat fragmentation are potential construction impacts that adversely affect fish and wildlife. Fill in wetlands, increased turbidity, loss of vegetation in riparian zones, loss of in-stream habitat, and accidental spill are potential construction impacts that adversely affect wetlands and water resources. Noise, dust and disruption are potential construction impacts that adversely affect the human environment.

Operational impacts -- Habitat fragmentation, invasion of noxious weeds, displacement of wildlife, increased impervious surface resulting in reduced groundwater recharge areas and reduced base flow in streams, and the displacement of homes and businesses due to increased right of way needs are potential operational impacts.

Recommended Mitigation

Because the project is still at the planning level, specific recommendations for specific mitigation measures cannot be made until more design specific information is available. However, generalized recommendations are included here as a general guide.

Avoidance and minimization of impacts to terrestrial, aquatic and human resources to the fullest extent possible can do more than any other practice to reduce impacts and is strongly recommended as a first step in any project. Implementation of best management practices to protect water resources from increased turbidity should be a requirement. The use of native plants to revegetate disturbed areas especially in riparian zones is encouraged. Consultation with the local WDFW biologist to locate animal crossing and determine the best locations for creation, enhancement and restoration of wetlands in compensation for any unavoidable wetland impacts is recommended. Timing and duration limitations designed to reduce impacts on threatened and endangered fish and wildlife should be strictly observed. It should be noted that since the existing roadway does not have any facilities for detention and treatment of stormwater, and all of the build alternatives will be required to provide such features, the build alternatives will result in a net improvement to water resources on the route.

Where unavoidable impacts to the human environment result due to increased right of way needs, affected residents and businesses will be relocated through the Uniform Relocation and Real Property Acquisition Policies Act of 1970. Under this act, no person can be required to move from his or her residence or business unless a comparable replacement property is available for sale or rent within the displaced person's financial means.

Relocation resources are available through the Department of Transportation to provide relocation assistance in accordance with Chapters 8.08, 8.25, and 8.26 of the revised Code of Washington.

Table S-2 Pivotal Environmental Impacts in Segment 1

Segment 1 **Western Quimper Peninsula**	**Alt 1A** **No build**	**Alt 1B** **TDM**	**Alt 1C** **4-Lane**	**Alt 1VA** **Continuous 3-lane**	**Alt 1VA Option** **Intermittent 3-lane**
New Construction	None	Build Park & Ride lot at Center Road	2-lanes with median & interchanges	1-lane with ramps at Center Rd and interchange at SR 19	Climbing lanes with ramps at Center Rd and interchange at SR 19
Fish and Wildlife Habitat	Stormwater	Stormwater	Perch trees, Tarboo Ck riparian zone	Reduced impact to Tarboo Creek riparian zones	Reduced impact to Tarboo Creek riparian zones
Wetlands	No impacts	15 acres Category 1 forested	25 acres	9 acres	9 acres
Water Resources	Tarboo Creek Dabob Bay	Tarboo Creek Dabob Bay	Benefit from stormwater treatment	Benefit from stormwater treatment	Stormwater treatment only intermittent
Threatened & Endangered Species	Salmonids*, bald eagles, osprey and marbled murrelets	Salmonids*, bald eagles, osprey and marbled murrelets	Salmonids*, bald eagle	Salmonids*, bald eagle	Salmonids*, bald eagle
Land Use & Displacements	No impacts	No impacts	72 acres Displace visitor center	30 acres Displace visitor center	30 acres Displace visitor center
Traffic -- LOS	LOS F	LOS F	LOS B	LOS E	LOS E
Traffic -- Safety	Not addressed	Not addressed	Addressed	Addressed	Addressed
Meets Purpose & Need	No	No	Yes	No	No

* Includes Chum, Coho, cutthroat and steelhead.

Table S-3 Pivotal Environmental Impacts in Segment 2

Segment 2 **Eastern Quimper Peninsula**	**Alt 2A** **No build**	**Alt 2B** **TDM**	**Alt 2C** **4-Lane**	**Alt 2VA** **Continuous 3-lane**
New Construction	None	Park & Ride lot at South Point Rd.	2-lanes with median, interchanges and frontage roads	1-lane, ramps, interchange and frontage roads
Fish and Wildlife Habitat	Stormwater	Category 1 priority wetland habitat	Category 1 priority wetland habitat	Category 1 priority wetland habitat
Wetlands	Shine Creek wetlands	Shine Creek wetlands	6 acres (2 ac in Cat 1 forested) Riparian zone & upland buffer to Shine Creek wetlands	5 acres (1 ac in Cat 1 forested) Riparian zone & upland buffer to Shine Creek wetlands
Water Resources	Shine Creek Squamish Harbor	Shine Creek Squamish Harbor	Benefits from stormwater treatment. 6 wellhead protection zones 1 well	Benefits from stormwater treatment. 6 wellhead protection zones 1 well
Threatened & Endangered Species	Salmonids*, eagles, osprey, and great blue heron	Salmonids*, eagles, osprey, and great blue heron	Salmonids*, forage fish, 3 eagle nests, 2 osprey nests, 3 great blue heron breeding colonies	Salmonids*, forage fish 3 eagle nests, 2 osprey nests, 3 great blue heron breeding colonies
Land Use & Displacements	None	None	29 acres 23 single-family 1 business Shine fire station	25 acres 20 single-family 1 business Shine fire station
Traffic -- LOS	LOS F	LOS F	LOS C	LOS F
Traffic -- Safety	Not addressed	Not addressed	Addressed	Addressed
Meets Purpose & Need	No	No	Yes	No

*Includes Chinook, chum, bull trout, Coho, cutthroat, and steelhead.

Table S-4 Pivotal Environmental Impacts in Segment 3

Segment 3 **Hood Canal Bridge**	**Alt 3A** **No build**	**Alt 3B** **TDM**	**Alt 3C** **4-Lane**
New Construction	None	Park & Ride lot on western approach	Widen bridge to 4-lanes
Fish and Wildlife Habitat	None	None	2 acres eelgrass beds
Wetlands	None	None	None
Water Resources	None	None	None
Threatened & Endangered Species	None	None	Marbled murrelets, Chinook, chum, bull trout, Coho, cutthroat, steelhead, and forage fish
Land Use & Displacements	None	None	None
Traffic -- LOS	LOS F	LOS F	LOS D*
Traffic -- Safety	None identified	None identified	None identified
Meets Purpose & Need	No	No	Yes

* Bridge openings and treatment of adjacent intersections in Segments 2 and 4 could affect LOS. Needs additional analysis when study is completed. LOS D meets the PRTPO minimum for a rural tourist route.

Table S-5 Pivotal Environmental Impacts in Segment 4

Segment 4 **The Port Gamble Bay Area**	**Alt 4A** **No build**	**Alt 4B** **TDM**	**Alt 4C** **North Bypass**	**Alt 4D** **South Bypass**	**Alt 4VA** **Upgrade Existing**
New Construction	None	Park & Ride lot at SR 3/104	1 1/8 miles new 2-lane roadway, widen shoulders	2 ½ miles new 2-lane roadway with climbing lane, widen shoulders, widen SR 3	Widen existing shoulders outside of town
Fish and Wildlife Habitat	Fish barrier remains on Gamble Creek. Forage habitat	Fish barrier remains on Gamble Creek. Forage habitat	Riparian and in-stream habitat. Loss of forested shoreline	Fragments habitat, perch trees, essential fish habitat	Loss of forested shoreline of Gamble Bay. In-stream habitat
Wetlands	None	None	2 acres – bisects 10 acre forested wetland	1 acre scrub/shrub	2 acres (1 acre Category 1 wetland)
Water Resources	Stormwater Gamble Bay	Slight benefit due to stormwater facilities at Park & Ride	Gamble Creek flood plain Benefits from stormwater treatment	Toddhunter Creek. Gamble Creek flood plain Benefit from stormwater treatment	Benefits from stormwater treatment Gamble Creek flood plain
Threatened & Endangered Species	Salmonids* and birds of prey	Salmonids* and birds of prey	Salmonids* (except bull trout), 1 bald eagle, 2 osprey	Salmonids*, 1 bald eagle, osprey, great blue heron	Salmonids*, 2 bald eagle, 3 osprey, 2 great blue heron colonies
	*Includes Chinook, chum, bull trout, Coho, cutthroat, and steelhead				
Land Use & Displacements	None	None	38 acres 6 single-family, 5 out buildings	89 acres 13 single-family &1 business	36 acres 6 single-family
Traffic -- LOS	LOS D	LOS D	LOS D	LOS D	LOS D
Traffic -- Safety	Not addressed	Sharp corner prohibits express bus	Backups at Hood Canal Bridge	Backups on SR 3	Backups at Hood Canal Bridge
Meets Purpose & Need	Yes	Yes	Yes	Yes	Yes

Table S-6 Pivotal Environmental Impacts in Segment 5

Segment 5 **Greater Kingston**	**Alt 5A** **No build**	**Alt 5B** **TDM**	**Alt 5C** **4-lane**	**Alt 5D** **Grade Separation**	**Alt 5E** **Short Tunnel**
New Construction	None	Park & Ride at Hansville/Miller Bay Rd & 6 off-route locations	Add 2-lanes and raised median	Bridge over SR 104 on NE West Kingston Rd.	Tunnel under Kingston business district
Fish and Wildlife Habitat	Stormwater	In-stream habitat, & eagle forage habitat at Agate Pass	In-stream habitat	None	Sedimentation from excavation & soil disposal
Wetlands	None	Wetland at Hansville/Miller Bay Road	2 acres, very difficult to avoid	None	Sedimentation from excavation & soil disposal
Water Resources	Stormwater	Stormwater & Grovers Creek	Carpenter Ck. Grovers Ck., Appletree Cove flood plain. Benefit from stormwater treatment	None	Appletree Cove and Appletree Cove flood plain
Threatened & Endangered Species	Salmonids*, birds of prey	Salmonids*, birds of prey	Salmonids*, birds of prey	Eagles and marine species	Eagles and marine species
	*Includes Chinook, chum, Coho, cutthroat and steelhead				
Land Use & Displacements	None	None	45 acres 11 single-family, 16 multi-family, 6 businesses	1 acre 25 single-family 1 business	2 acres 15 businesses, 1 church+ Risk Assessment Zone (17 business, 1 single-family, & Community Center)
Traffic -- LOS	LOS F	LOS F	LOS D	LOS F	LOS F
Traffic -- Safety	Not addressed	Not addressed	Addressed	Not addressed	Not addressed
Meets Purpose & Need	No	No	Yes	No	No

Secondary and Cumulative Effects

Reasonably Foreseeable Actions

In addition to the proposed SR 104 improvements described in Related Actions, commercial developments, improvements to the County transportation system in the vicinity of SR 104, and local socioeconomic trends can be expected to affect transportation and land use. These actions and trends are discussed below.

Commercial developments depend on regional economic trends capable of sustaining this type of large-scale investment. Within the next 10 years, Olympic Resource Management, a major landowner in North Kitsap County, plans to develop Arborwood, a 765-unit subdivision south of Kingston, and redevelop Port Gamble to include high value residential units, bed & breakfast accommodations, and a convention center. Whitehorse, a 225 unit residential development surrounding a golf course, is also planned by a private developer south of Kingston.

Planned transportation system improvements in the vicinity of SR 104 identified in the Kitsap and Jefferson County Six-year TIP include:

- Jefferson County
    - No new road construction is planned in the in the vicinity of SR 104; however, several county roads are planned for paving, safety improvements and wider shoulders. Shoulder widening and pavement overlays are planned for portions of Paradise Bay Road, Gibbs Lake Road, Center Road, Shine Road and Oak Bay Road.
    - Construction of a new visitor center is planned at the intersection of SR 19 and SR 104.
    - Two fish passage barriers retrofit projects are planned on Tarboo Creek: one at Center Road and the other on Dabob Road.
- Kitsap County
    - Widen and pave West Kingston Road from Hansville/Miller Bay Road to SR 104.
    - Widen and pave Little Boston Road from Cliffside Road to Hansville/Miller Bay Road. Widen and reconstruct Port Gamble Road from SR 104 to SR 307.
    - Replace the culvert on Port Gamble Creek where it crosses under Port Gamble Bay Road to address conveyances and fish passage.

Planned transportation system improvements in the vicinity of the proposed SR 104 highway improvements identified in the WSDOT *Highway System Plan* (WSDOT 1998) and Puget Sound Regional Council *Destination 2030* (PSRC, 2001) include:

- Jefferson County
    - Widening SR 19 from SR 104 to SR 20 (2 lanes to 4 lanes)
    - Widening SR 20 from SR 101 to ferry landing (Pt. Townsend)
    - Widening SR 116 from SR 19 to Naval Undersea Engineering Station (2 lanes to 4 lanes)

- Intermittent truck climbing/passing lanes on SR101 from Jefferson County Line to SR 20

- Kitsap County
  - Widening SR 307 from SR 305 to SR 104 (2/3 lanes to 4/5 lanes)
  - Widening SR 305 from Poulsbo to SR 307 (2/3 lanes to 4/5 lanes)
  - Kitsap ferry terminal and vessel capacity (Kingston-Seattle Passenger only route) expansion

Jefferson County is one of the fastest growing counties in Washington State. Census 2000 figures show total county population of 25,953, representing a 27 percent increase from 1990. The average annual rate of growth in the county since 1970 is 3.2 percent, while by comparison, the Washington State rate of growth is 1.8 percent. Population projections for the county show a year 2020 population of 44,822, a 70 percent increase over year 2000 population (OFM). This growth rate averages out to 35 percent per decade.

Kitsap County's population increased by 22 percent between 1990 (189,731) and 2000 (231,969). During the past decade incorporated areas of the county grew by 37 percent, while the unincorporated areas experienced a slower growth rate of 15 percent. All of the study area is unincorporated, including the community of Kingston. Since 1970 population growth in the county has averaged 2.8 percent. More recently, the rate of growth has shown signs of slowing with only negligible growth since 1998. Population projections for the county show a year 2020 population of 337,602, a 40 percent increase over year 2000 population (OFM). This growth rate averages out to 20 percent per decade, a slightly slower growth rate than current.

Between 1992 and 1997, the number of farms, the total amount of land devoted to farming, and the income of agricultural production increased in both counties. The average size of farms in Jefferson County grew from 83 acres to 91 acres while farms in Kitsap County grew from 28 acres to 53 acres. The 1997 US Census of Agriculture shows that 13,091 acres of land in Jefferson County were devoted to agricultural uses, a 36 percent increase from 1992, while Kitsap County experienced an 86 percent increase during the same period.

Secondary and Cumulative Impacts

The following sections document both secondary and cumulative effects for each of the pivotal issues.

Fish and Wildlife Habitat -- Road construction, timber harvesting, farming, residential development, commercial and recreational fishing, shellfish harvesting, and recreational development have contributed to the current environmental conditions and continue to affect wildlife habitat. Due to the expected population growth in the region, it is reasonable to assume that new residential development and infrastructure improvements will continue into the future.

The proposed SR 104 improvements, in combination with these other projects, would contribute cumulatively to the loss of wildlife habitat and in-stream fish habitat in the region. However, regional growth is ultimately controlled by local comprehensive plans and zoning ordinances. All construction projects in the region must undergo environmental review and permitting, with the intent to ensure that adverse impacts on wetlands, uplands, and fish habitats are avoided or minimized to the extent practicable.

Mitigation is required for any unavoidable adverse impacts on wetlands, uplands, and fish habitats. In addition, all projects are required to comply with section 7 of the Endangered Species Act to protect threatened salmonid habitat.

Wetlands -- The proposed SR 104 improvements would promote additional development in Kitsap and Jefferson Counties. Increased development would also occur even under the no-build alternative. These developments would likely contribute to loss of wetland acreage, function, and values. Wetland protection for associated development projects would minimize these impacts. Despite these requirements, some cumulative loss of wetland acreage, functions, and values would occur.

Wetland-related permits and requirements would be mandatory for future projects involving the filling or the alteration of functions in these systems. All future projects would adhere to county and state wetland requirements aimed at minimizing long-term loss of wetlands, wetland functions and wetland values.

Water Resources -- Although the SR 104 project itself is expected to result in a net benefit to surface water resources under all development alternatives, long-term secondary and indirect impacts are possible. Improving conditions along SR 104 would promote additional development in Kitsap and Jefferson Counties. Increasing development would also likely occur even under the no-build alternative. Increased development is expected to result in gradual, but substantial, increases in impacts on surface water resources. Development requirements associated with water resource protection would serve to minimize these impacts to the extent practicable; however, it is believed that the only way to prevent substantial impacts would be to limit development.

Due to the proposed stormwater management controls for runoff within the project corridor, indirect impacts on water resources are not expected as a result of the SR 104 project. However, proposed stormwater management facilities could potentially result in elevated temperatures in project area streams if aboveground ponds are used for treatment of runoff. These secondary impacts are a potential concern in the warm and dry months of the year when onsite runoff would reside in stormwater ponds for weeks at a time. Once a storm occurs, the warm waters of these ponds would be flushed into the nearby streams, thereby raising the streamflow temperatures if the volume of streamflow were slight to moderate in comparison to the pond outflow volumes.

Secondary and cumulative impacts on ground water are also expected. As development increases in Kitsap and Jefferson Counties, impervious surfaces will also increase, resulting in further reductions in infiltration and ground water recharge. Moreover, ground water demands will also likely grow with increasing development, resulting in further impacts on ground water resources.

Adherence to the requirements set forth in 2001 draft *Highway Runoff Manual* (WSDOT 2001c) and Instructional Letter 4020.01 (Endangered Species Act Section 7 (d) Project List and Stormwater Effects Guidance [WSDOT 2001 d]), would minimize operational impacts to the maximum extent practicable. However, to meet potentially more stringent requirements in the future, the project may consider implementing new or state-of-the-art stormwater facilities where feasible. To prevent stormwater ponds from inadvertently causing secondary impacts on stream temperatures, the perimeter of ponds should be planted with tall shade trees in accordance with applicable design guidance from WSDOT and the Department of Ecology.

Threatened and Endangered Species -- Past and present actions that contribute to the present environmental conditions in the project vicinity include road construction, timber

harvesting, farming, and residential and commercial development that reduce wildlife habitat. In addition, commercial and recreational fishing, shellfish harvesting, and recreational development such as trails and access roads impact wildlife.

Due to the expected population growth in the region, other reasonably foreseeable projects include new residential development and infrastructure. The proposed SR 104 improvements in combination with these other projects would contribute cumulatively to the loss of wildlife and fish habitat in the region. Thoughtful design of project elements, implementation of best management practices (BMPs) during construction, restriction on construction timing, and conservation measures designed to protect water quality will help avoid or minimize impacts to wildlife and their habitat. .

Land Use and Displacement -- Current land use and zoning adopted by Kitsap and Jefferson Counties acknowledge the impact of future growth and provide zoning for development around existing population centers. Protective zoning is provided in both counties to preserve the rural nature of the undeveloped areas. In addition, Segments 1 and 2 of SR 104 have access restrictions in place that prevent development of adjacent property. For these reasons the proposed alternatives are consistent with local planned development, although they may change the location and timing of anticipated growth. In addition, most of the build alternatives occur on the existing alignment with minimal impacts to existing neighborhoods and communities along the route.

Traffic -- The single transportation project most likely to influence growth on the Kitsap and Olympic Peninsulas is instigation of the passenger-only fast ferry service from Kingston to Seattle. The project is listed in the *Washington State Ferry System Plan 1998-2018* as beginning in 2000 with a second boat to be added in 2002. A third boat is planned in 2012 to provide 30-minute headways during peak commuter hours. This plan assumed that the historic level of funding provided in 1998 would continue throughout the life of the plan. However, fundamental changes in state transportation funding for the state ferry system have occurred since the plan was written. At present, no passenger-only fast ferry service exists at Kingston, and it appears unlikely that it will be implemented in the next five years.

However, it is reasonable to assume that fast ferry service to Seattle will be provided by 2025. Such service would make it more attractive for people to live on the Kitsap and Olympic Peninsulas and work in downtown Seattle. It is anticipated that the resulting growth would happen in accordance with established county plans, but the location and timing of the proposed development could be affected or accelerated.

Selection of Preferred Alternative

Although the range of alternatives was narrowed through a series of screening processes described in Chapter 2, a preferred alternative was not selected for this project due to lack of funding.

The study was terminated in May 2002. It is assumed that the study effort will continue with selection of the preferred alternative if and when additional funding is provided. The required “next steps” and funding needs are detailed in Chapter 5 of this document.

Public Lands, Section 4(f)

Affected Environment

Two Section 4(f) properties, both in Segment 5, would be affected by build alternatives described in this proposal: The David E. Wolfe Elementary School and the Kola Kole County Park.

David Wolfe Elementary School -- The school property is located in the southwest quadrant of the intersection of Highland Road and SR104 in Segment 5. Soccer and Little League are primary recreational uses. All extracurricular use of the property takes place during the time of day when school is not in session and falls off substantially in the winter. The parking area potentially impacted by Alternative 5C is used during sporting events because it is more convenient to the soccer fields than the main parking area, and because the main parking area is insufficient during games.

Kola Kole County Park **--** The park is located in the community of Kingston immediately south of SR104 and west of Main Street. It is owned and operated by Kitsap County Parks and Recreation Department. Three buildings on the site serve a variety of community service purposes. This park supports a number of outdoor recreation activities, including Pee Wee soccer, Little League baseball, and community softball. A basketball court is also planned in the near future. Preschool events are also operated in the midday (summer only), and a formal playground with equipment has been added recently for younger children. These activities have been found to be extremely popular. An informal, but steady, seasonal use for unscheduled family picnics has also been observed.

Impacts

Alt. 5C – 4-Lane Widening -- The David Wolfe Elementary School soccer field parking lot is affected by Alternative 5C. The cut slope of the roadway has the potential to eliminate approximately 4000 square feet of the parking lot and driveway. The impact is focused in the turnaround area at the west end of the lot. This would result in a change in how the lot is used; however, the change in operation is unlikely to be significant.

Alternative 5E – Kingston Short Tunnel -- The Kola Kole Park is affected by this alternative. One of the ventilation structures for the tunnel is located within the boundaries of the facility, occupying approximately 4000 square feet in the northwest quadrant of the park (right field of the baseball diamond). Structures like this are known to occupy space in urban parks without known impacts related to aesthetics, air, noise, or water pollution (Scott Van Antwerp, personal communication). However, based on evidence gathered during an informal site investigation, it seems probable that the presence of this particular structure would have an adverse impact on the utility of the ball field. These long-term impacts to the site should be considered significant because of the regional importance of the park as a recreation and community resource.

During construction, it is expected that impacts to the full range of park uses would be significant. Direct access to the park would not be affected during construction. However, other impacts would be driven by construction-related changes to other roadway access points, air and noise pollution, and aesthetics.

Mitigation Measures

David E. Wolfe Elementary School -- Alternative 5C is the only alternative that addresses an increase in capacity for SR104 in Segment 5 west of Kingston, making its transportation-related characteristics unique for the study. However, moving the roadway alignment 10-20 feet north in this area, and/or placing a retaining wall in the roadway slope to contain that portion of the parking area affected by the roadway slope, would eliminate the Section 4(f) impact.

Kola Kole County Park -- Alternative 5E is one of two alternatives that seek to separate ferry traffic from local traffic in the Kingston business core. Alternative 5D also accomplishes this goal at a fraction of the cost, and represents a feasible and prudent alternative to Alternative 5E.

If other reasons compel the selection of Alternative 5E, the ventilation building could be moved to a nearby property or the ventilation system could be redesigned to relocate or eliminate the need for a building at the central location. Either mitigation solution would be more prudent than Alternative 5E as presented. Which option is more feasible is left to a more detailed design process.